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EXAMINER
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BODDIE, WILLIAM

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2629

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/611,814	<b>Applicant(s)</b> PRYOR, TIMOTHY R.	
	<b>Examiner</b> William L. Boddie	<b>Art Unit</b> 2629	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 November 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3-10,12-14,16-24,27-33,36,40,41,45,46,54 and 58-100 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-10,12-14,16-24,27-33,36,40,41,45,46,54 and 58-100 is/are rejected.
- 7) ☒ Claim(s) 22,71 and 76 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 22<sup>nd</sup>, 2006 has been entered.

### ***Response to Arguments***

2. Applicant's arguments with respect to claims 1, 3-10, 12-14, 16-24, 27-33, 36, 40-41, 45-46, 54, and 58-100 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Objections***

3. Claim 22 is objected to because of the following informalities: claim 22 currently states "a image modulating type." This is incorrect grammatically, and appropriate correction is required.

4. Claims 71 and 76 are objected to because of the following informalities: as currently written these claims are both dependent upon independent claim 54. This, however, introduces antecedent problems. It appears that the Applicant intended for claims 71 and 76 to instead be dependent on claims 70 and 75, respectively. This seems clear based on the apparent matching of the method claims to the apparatus claims. Claims 71 and 76 will be examined under this assumption. Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 13 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Specifically, as currently constructed, it is somewhat ambiguous as to what piece of the invention is located on the projector side of the screen. Additionally the phrase, "wherein a datum is sensed on a member" seems to imply that the member performs the sensing. Additional punctuation as well as rewording the claim would likely aid in better defining the intended scope.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1, 3-10, 12, 20, 22-24, 28, 30, 33, 40-41, 46, 54, 58-72, 79, 81-83, 85-86, 89, 91-92, 94-100 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimoto (US 6,061,177) in view of Jaeger et al. (US 5,572,239).

**With respect to claim 1**, Fujimoto discloses, a reconfigurable instrument panel, said panel comprising:

a computer terminal display including a rear projection display screen (1 in fig. 5);

an electro-optical sensing system (9 and 11 in fig. 5), located behind said screen and capable of sensing a plurality of positions of a user's touch (col. 6, lines 19-24), for sensing a current position of a user's touch (col. 8, lines 24-27); and

a computer connected to said electro-optical sensing means (14 in fig. 5), to determine, from the current position of the user's touch sensed by the electro-optical sensing means, inputs to control at least one function of the computer (col. 4, lines 5-9).

Fujimoto does not expressly disclose, that the device is used in a vehicle instrument panel, nor that a plurality of physical details are mounted to said screen and sensed by the electro-optical sensing system.

Jaeger discloses, a reconfigurable instrument panel display for a vehicle (note fig. 18a-c which Jaeger discloses are automobile radios) comprising:

a plurality of physical details (note the two knobs in figs. 18a-18c) mounted in front of a display screen (154 in fig. 21),

an electro-optical sensing system (164, 166, 178 etc in fig. 21), located behind said screen (col. 17, lines 11-15) and capable of sensing a plurality of positions of each of said plurality of physical control details (col. 17, lines 50-61 for example) and determining the desired inputs from the sensed control positions for controlling a car radio (col. 15, lines 41-55; col. 19, lines 7-12 for example).

Fujimoto and Jaeger are analogous art because they are from the same field of endeavor namely, display devices with input means included within the display, position of said input means being determined electro-optically.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to include the physical details and position determining means of Jaeger on the electro-optical system and projector of Fujimoto.

The motivation for doing so would have been to present the familiar feeling of pushing and turning knobs to operate a device (Jaeger; col. 2, lines 5-11).

Therefore it would have been obvious to combine Fujimoto with Jaeger for the benefit of tactile feedback to the user to obtain the invention as specified in claim 1.

**With respect to claim 3**, Fujimoto and Jaeger disclose, an instrument panel according to claim 1 (see above), wherein said computer controls said display as a result of data inputted to said computer (see above).

Fujimoto further discloses, wherein said computer controls said display as a result of data inputted to said computer from an external source (col. 4, lines 5-9, Fujimoto discloses the user interacting with the computer. In this case the user is the external source inputting data by touching the screen).

**With respect to claim 4**, Fujimoto and Jaeger disclose, an instrument panel according to claim 1 (see above)

Fujimoto further discloses, wherein said electro-optical sensing system is comprised by a TV camera (11 in fig. 2 and col. 9, lines 40-59, while Fujimoto does not call these video cameras "tv cameras", however Fujimoto's cameras are within the scope of tv cameras).

**With respect to claim 5**, Fujimoto and Jaeger disclose, an instrument panel according to claim 1 (see above).

Fujimoto further discloses, wherein said electro-optical sensing system is comprised by an optical sensor (11 in fig. 5) incorporated into the projector (17 in fig. 5). (In the embodiment shown in fig. 5, the camera and projector are arranged to be more compact. It is clear that the camera could be incorporated into the projector in this embodiment. Note col. 9, lines 56-59.)

At the time of the invention it would have been obvious to a person of ordinary skill in the art to comprise the electro-optical system, of Fujimoto and Jaeger, of an optical sensor and a projector incorporated together.

The motivation for doing so would have been to make the apparatus as compact and small as possible (Fujimoto, col. 9, lines 28-30).

Therefore it would have been obvious to combine Jaeger and Fujimoto for the benefit of compactness to obtain the invention as specified in claim 5.

**With respect to claim 6**, Fujimoto and Jaeger disclose, an instrument panel according to claim 1 (see above).

Jaeger further discloses wherein said computer additionally controls a desired function (col. 18, lines 20-24, microprocessor is understood to be a computer. Jaeger discloses that a microprocessor controls the functions).

**With respect to claim 7**, Fujimoto and Jaeger disclose, an instrument panel according to claim 1(see above).

Jaeger further discloses wherein at least one of said control details is a knob (153 in fig. 21).

**With respect to claim 8**, Fujimoto and Jaeger disclose, an instrument panel according to claim 1 (see above).

Jaeger further discloses, wherein absolute position of said control detail is determined (col. 19, lines 7-12; Jaeger stores the angular position of the knob)

**With respect to claim 9**, Fujimoto and Jaeger disclose, an instrument panel according to claim 1 (see above)

Fujimoto further discloses, including sensing of touch position on said screen (fig. 3 also col. 1, lines 7-16 for example).

**With respect to claim 10**, Fujimoto and Jaeger disclose, an instrument panel according to claim 9 (see above)

Fujimoto further discloses, wherein said touch sensing is also achieved electro-optically (note fig. 2, col. 5, lines 4-28 details the operation of the electro-optical means).

**With respect to claim 12**, Fujimoto and Jaeger disclose, an instrument panel according to claim 1 (see above).

Jaeger further discloses, wherein a datum (191 in fig. 26) on said physical control detail located on the users side of said screen is sensed (also see fig. 22).

**With respect to claim 20**, Fujimoto and Jaeger disclose, an instrument panel according to claim 1.

Jaeger further discloses, wherein at least one of said physical control details comprises one of a slider and a dial (153 in fig. 21).

**With respect to claim 22**, Fujimoto and Jaeger disclose, an instrument panel according to claim 1 (see above).

Fujimoto further discloses, projection means (17 in fig. 2) that are an image modulating type, specifically DLP (col. 6, lines 60-62)



**With respect to claim 23**, Fujimoto and Jaeger disclose, an instrument panel according to claim 1 (see above).

Jaeger further discloses wherein said plurality of physical control details comprises, two knobs spaced horizontally in front of said screen (clear from figs. 8a-c).

**With respect to claim 24**, Fujimoto and Jaeger disclose, an instrument panel according to claim 23 (see above).

Jaeger further discloses, wherein a first displayed image on said screen corresponds to a radio configured around said two knobs, and said radio image is later reconfigured to another function (col. 16, lines 34-52).

**With respect to claim 28**, Fujimoto and Jaeger disclose, an instrument panel according to claim 1 (see above).

The further limitation of claim 28 stating, wherein said screen is curvilinear, is merely a design choice. Therefore it would have been obvious to make the screen curvilinear for the benefit of aesthetics to obtain the invention as specified in claim 28.

**With respect to claim 30**, Fujimoto and Jaeger disclose, an instrument panel according to claim 1 (see above).

The further limitation of claim 30 stating, where said display screen is at least 90 square inches in extent or area, is merely a design choice. Therefore it would have been obvious to make the screen 10"x9" for the benefit certain size requirements to obtain the invention as specified in claim 30.

**With respect to claim 33**, Fujimoto and Jaeger disclose, an instrument panel according to claim 1 (see above).

While Jaeger does not expressly disclose wherein video images are displayed on an upper portion of said display, it is well known in the art that liquid crystal displays can display video images. Therefore it would have been obvious to play video images on the upper portion of the LCD display. The motivation for doing so would have been to allow for a variety of user configurations.

**With respect to claim 40**, Fujimoto and Jaeger disclose, an instrument panel according to claim 1 (see above).

Jaeger further discloses, wherein data displayed on said display screen is comprised of labels and other data relating to the function of at least one of said plurality of physical control details (note fig. 1 and the labels displayed on the flat panel).

**With respect to claim 41**, Fujimoto and Jaeger disclose, an instrument panel according to claim 33 (see above).

Fujimoto further discloses, the user interacting with the computer. In communicating with a general-purpose computer, a user commonly acknowledges data presented. Fujimoto discloses a general-purpose computer (col. 4, lines 6-9) for use with office applications for example (col. 1, lines 33-36).

**With respect to claim 46**, Fujimoto and Jaeger disclose, an instrument panel according to claim 9 (see above).

Fujimoto further discloses, wherein data to be acted on by touch sensing is projected on said screen under control of said computer (col. 6, lines 53-56).

**With respect to claim 54**, Fujimoto discloses, a reconfigurable instrument panel, said panel comprising:

a computer terminal display including a rear projection display screen (1 in fig. 5);

an electro-optical sensing system (9 and 11 in fig. 5), located behind said screen and capable of sensing a plurality of positions of a user's touch (col. 6, lines 19-24), for sensing a current position of a user's touch (col. 8, lines 24-27); and

a computer connected to said electro-optical sensing means (14 in fig. 5), to determine, from the current position of the user's touch sensed by the electro-optical sensing means, inputs to control at least one function of the computer (col. 4, lines 5-9).

Fujimoto does not expressly disclose, that the device is used in a vehicle instrument panel, nor that a plurality of physical details are mounted to said screen and sensed by the electro-optical sensing system.

Jaeger discloses, a method for controlling at least one function of a vehicle (radio in fig. 18a-c) said method comprising:

using an electro-optical sensing means (163, 176, 178 etc. in fig. 21) for sensing a current position of at least one of a plurality of physical control details (153 in fig. 21) capable of movement between a plurality of positions (numerous rotations) and located in front (col. 17, lines 11-15) of a screen (154 in fig. 21) of a reconfigurable instrument panel display for the vehicle (156 in fig. 21), wherein the electro-optical sensing means is capable of sensing the positions of each of said plurality of physical control details and is located behind the screen (col. 17, lines 11-15), and said display is controlled by a computer (col. 7, lines 37-47); and

using the computer in processing data from said electro-optical sensing means to determine the current position of the at least one of the plurality of physical control details (col. 17, lines 61-67) and in controlling at least one function of the vehicle based

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on the current position of the at least one of the plurality of physical control details determined by the computer (col. 7, lines 17-26; for example).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to include the physical details and position determining means of Jaeger on the electro-optical system and projector of Fujimoto.

To further explain the merits of the combination, Jaeger relies on determining the level of darkness of a disk attached to a control detail to determine the position of the knob. This is seen as analogous to the method by which Fujimoto detects touches, i.e. locating dark spots on the display screen. It seems obvious that one when presented with the two would alter the device of Fujimoto to also detect levels of darkness thereby allowing it to detect control detail positions.

The motivation for doing so would have been to present the familiar feeling of pushing and turning knobs to operate a device (Jaeger; col. 2, lines 5-11).

Therefore it would have been obvious to combine Fujimoto with Jaeger for the benefit of tactile feedback to the user to obtain the invention as specified in claim 54.

**With respect to claim 58**, Fujimoto and Jaeger disclose, an instrument panel according to claim 1 (see above).

Fujimoto further discloses, wherein at least a portion of said screen is non-flat (figs. 6-8).

**With respect to claim 59**, Fujimoto and Jaeger disclose, an instrument panel according to claim 1 (see above).

Fujimoto further discloses, touch sensing means for sensing xy touch position of a finger of a user on at least a portion of said display screen (col. 4, lines 47-50).

**With respect to claim 60**, as claim 60 is sufficiently identical to the previously rejected claim 10, claim 60 is rejected on the same merits shown above in the rejection of claim 10.

**With respect to claim 61**, Fujimoto and Jaeger disclose, an instrument panel according to claim 1 (see above).

Jaeger further discloses, wherein at least one of said physical control details comprises a switch (fig. 20).

**With respect to claim 62**, Fujimoto and Jaeger disclose, an instrument panel according to claim 1 (see above).

Jaeger further discloses, wherein said display screen comprises part of a display system capable of providing, on said display screen, different reconfigurable images (33 in fig. 1) associated with the plurality of physical control details (col. 7, lines 38-47).

**With respect to claim 63**, Fujimoto and Jaeger disclose, an instrument panel according to claim 62 (see above).

Jaeger further discloses, where said images include an audio image (col. 12, lines 5-10 for example) and navigational guidance images (col. 16, lines 48-52).

**With respect to claims 64-72, 79, 81-83, 85-86, 89, 91-92, 94-100**, these claims are merely method versions of claims, 3-10, 12, 20, 22-24, 28, 30, 33, 40-41, 46, 54 and 58-62, respectively. As such claims 64-72, 79, 81-83, 85-86, 89, 91-92 and 94-100 are rejected on the same merits shown above in the rejection of the identical apparatus version of the claim.

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9. Claims 13 and 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimoto (US 6,061,177) in view of Jaeger et al. (US 5,572,239) and further in view of Bergman et al. (US 5,859,631).

**With respect to claim 13**, Fujimoto and Jaeger disclose, an instrument panel according to claim 1 (see above).

Neither Fujimoto nor Jaeger expressly disclose, wherein a datum is sensed on a member related to the current position of said at least one physical control detail is located on the projector side of said screen.

Bergman discloses, wherein a datum (30 and 32 in fig. 1 for example) is sensed electrically on a member (20 in fig. 1) related to the current position of at least one physical control detail (10 in fig. 1) is located on the backside of a screen (2 in fig. 1).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to include the grayscale dial of Fujimoto and Jaeger on the projector side of the screen as shown by Bergman.

The motivation for doing so would have been to ensure accurate imaging of the grayscale wheel of Jaeger by removing any screens or layers which might affect the transparency of the device (Bergman; col. 3, lines 25-28).

Therefore it would have been obvious to combine Bergman with Fujimoto and Jaeger for the benefit of a more accurate image of the grayscale wheel to obtain the invention as specified in claim 13.

**With respect to claim 73**, this claim is merely a method version of claim 13. As such claim 73 is rejected on the same merits shown above in the rejection of the identical apparatus version of the claim.

10. Claims 14 and 74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimoto (US 6,061,177) in view of Jaeger et al. (US 5,572,239) and further in view of Levin et al. (US 6,154,201).

**With respect to claim 14**, Fujimoto and Jaeger disclose, an instrument panel according to claim 1 (see above).

Fujimoto and Jaeger do not expressly disclose, wherein force feedback is provided to the user as a result of said sensed control detail or touch position.

Levin discloses, wherein force feedback (col. 2 lines 1-3) is provided to the user as a result of said sensed control detail (col. 2 lines 66-67 and col. 3 lines 1) or touch position.

Fujimoto, Jaeger, and Levin are analogous art because they are from the same field of endeavor, namely touch-based input devices.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to include force feedback functionality in the physical control features of the claim 1 invention disclosed by Fujimoto and Jaeger.

The motivation for doing so would have been to provide physical sensations to the user manipulating the knob (Levin, col. 1, lines 35-36).

Therefore it would have been obvious to combine Fujimoto, Jaeger, and Levin for the benefit of providing physical sensations to obtain the invention as specified in claim 14.

**With respect to claim 74**, this claim is merely a method version of claim 14. As such claim 74 is rejected on the same merits shown above in the rejection of the identical apparatus version of the claim.

11. Claims 16-17 and 75-76 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimoto (US 6,061,177) in view of Jaeger et al. (US 5,572,239) and further in view of Cragun et al. (US 5,412,189).

**With respect to claim 16**, Fujimoto and Jaeger disclose, an apparatus according to claim 1 (see above).

Fujimoto and Jaeger do not expressly disclose, wherein said screen incorporates at least one relief feature.

Cragun discloses, relief features (i.e. tactile information) on a touch screen (col. 1, lines 54-57).

Fujimoto, Jaeger, and Cragun are all analogous art because they are from the same field of endeavor, namely touch screen technology.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to include relief features on the projection and sensing system disclosed by Fujimoto and Jaeger.

The motivation for doing so would have been to allow visually impaired users to also use the device (Cragun, col. 1, lines 43-45).

Therefore it would have been obvious to combine, Fujimoto, Jaeger, and Cragun for the benefit of the visually impaired to obtain the invention as specified in claim 16.

**With respect to claim 17**, Fujimoto, Jaeger, and Cragun disclose, an apparatus according to claim 16 (see above).

Cragun further discloses, wherein said relief feature does not unduly disrupt images projected on said screen (col. 3, lines 23-28).



At the time of the invention it would have been obvious to a person of ordinary skill in the art to construct the relief features as transparent as possible.

The motivation for doing so would have been decrease, both, lens effects and interference with visual information (col. 3, lines 25-28).

Therefore it would have been obvious to combine Fujimoto, Jaeger, and Cragun for the benefit of decreasing lens effects to obtain the invention as specified in claim 17.

**With respect to claims 75-76**, these claims are merely method versions of claims 16-17, respectively. As such claims 75-76 are rejected on the same merits shown above in the rejection of the identical apparatus version of the claim.

12. **Claims 18 and 77** are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimoto (US 6,061,177) in view of Jaeger et al. (US 5,572,239) and further in view of Villalobos et al. (US 4,644,326).

**With respect to claim 18**, Fujimoto and Jaeger disclose, an apparatus according to claim 1 (see above)

Fujimoto and Jaeger do not expressly disclose wherein said physical control detail is transparent.

Villalobos discloses, wherein said physical control detail is transparent (36 in fig. 1 and col. 8, lines 66-68 and col. 9, lines 1-2).

Villalobos, Fujimoto, and Jaeger are all analogous art because they are from the same field of endeavor namely input panels.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to make the control features of Fujimoto and Jaeger transparent as disclosed by Villalobos.

The motivation for doing so would have been to allow images to be displayed on/through the control details.

Therefore it would have been obvious to combine Fujimoto, Jaeger, and Villalobos for the benefit of displaying images on/through the controls to obtain the invention as specified in claim 18.

**With respect to claim 77**, this claim is merely a method version of claim 18. As such claim 77 is rejected on the same merits shown above in the rejection of the identical apparatus version of the claim.

13. Claims 19 and 78 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimoto (US 6,061,177) in view of Jaeger et al. (US 5,572,239) and further in view of Serras-Paulet et al. (US 4,303,856).

**With respect to claim 19**, Fujimoto and Jaeger disclose, an apparatus according to claim 1 (see above).

Fujimoto and Jaeger do not expressly disclose, wherein said physical control detail has an opening through which said screen may be viewed.

Serras-Paulet discloses, wherein said physical control detail (4-6,9 in fig. 1) has an opening (20 in fig. 1) through which said screen (12 in fig. 1) may be viewed.

Serras-Paulet, Fujimoto, and Jaeger are all analogous art because they are from the same field of endeavor illuminated input devices.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to include an opening, taught by Serras-Paulet, in the control detail, of Fujimoto and Jaeger.

The motivation for doing so would have been to illuminate the control detail (Serras-Paulet, col. 4, lines 47-50)

Therefore it would have been obvious to combine Fujimoto, Jaeger, and Serras-Paulet for the benefit of illuminated the controls to obtain the invention as specified in claim 19.

**With respect to claim 78**, this claim is merely a method version of claim 19. As such claim 78 is rejected on the same merits shown above in the rejection of the identical apparatus version of the claim.

14. Claims 21 and 80 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimoto (US 6,061,177) in view of Jaeger et al. (US 5,572,239) and further in view of Wellner (US 5,511,148).

**With respect to claim 21**, Fujimoto and Jaeger disclose, an instrument panel according to claim 1 (see above).

Fujimoto and Jaeger do not expressly disclose wherein said projection means is a flying spot scanning type.

Wellner discloses flying spot scanning type projection means (col. 1, lines 50-54).

Wellner, Fujimoto, and Jaeger are all analogous art because they are from the same field of endeavor, namely display peripheral interface input devices.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to develop the projection means, of Fujimoto and Jaeger, as a flying spot scanning type, disclosed by Wellner.

The motivation for doing so would have been to allow projection of a document-sized image onto a work surface (Wellner, col. 1, lines 54-56) and to allow the user to interact with it.

Therefore it would have been obvious to combine Wellner, Fujimoto, and Jaeger, for the benefit of user-interaction with a projected image to obtain the invention as specified in claim 21.

**With respect to claim 80**, this claim is merely a method version of claim 21. As such claim 80 is rejected on the same merits shown above in the rejection of the identical apparatus version of the claim.

15. Claims 27, 31, 45, 84, 87 and 93 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimoto (US 6,061,177) in view of Jaeger et al. (US 5,572,239) and further in view of Ames et al. (US 4,787,040).

**With respect to claim 27**, Fujimoto and Jaeger disclose, an instrument panel according to claim 1 (see above).

Neither Fujimoto nor Jaeger expressly disclose, wherein said display is located in the center stack of said vehicle.

Ames discloses installing a CRT touch screen in the center stack of a vehicle (36 in fig. 2)

Fujimoto, Jaeger and Ames are analogous art because they are from the same field of endeavor, namely computer controlled displays with touch screen technology.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to locate the display, taught by Jaeger, in the center stack of a vehicle as disclosed by Ames.

The motivation for doing so would have been that this is the typical location for control over additional functions of a car, such as radio and climate control.

Therefore it would have been obvious to combine Fujimoto and Jaeger with Ames for the benefit of familiarity with users to obtain the invention as specified in claim 27.

**With respect to claim 31**, Fujimoto and Jaeger disclose, an instrument panel according to claim 25 (see above).

Neither Fujimoto nor Jaeger expressly disclose, that the display screen is located in the center stack of said vehicle and extends toward the steering wheel of said vehicle.

Ames discloses, locating a CRT display in the center stack of said vehicle and extends toward the steering wheel of said vehicle (note the location of 36 in fig. 2).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to locate the display, taught by Jaeger, in the center stack of a vehicle extending towards the steering wheel as disclosed by Ames.

The motivation for doing so would have been that this is the typical location for control over additional functions of a car, such as radio and climate control.

Therefore it would have been obvious to combine Fujimoto and Jaeger with Ames for the benefit of familiarity with users to obtain the invention as specified in claim 31.

**With respect to claim 45**, Fujimoto and Jaeger discloses, an apparatus according to claim 1 (see above).

Fujimoto and Jaeger do not expressly disclose wherein said computer is further used to process data from other electro-optical systems within the vehicle.

Ames discloses a computer (34 in fig. 3) that processes data for both the user-input touch-screen (36 in fig. 3) as well as data from a CD player (40 in fig. 3).

At the time of the invention it would have been obvious to enable the computer, of Fujimoto and Jaeger, to communicate with other systems in the vehicle.

The motivation for doing so would have been to simplify the operation of the vehicle by limiting the different panels that the user must use to operate all the functions of the vehicle.

Therefore it would have been obvious to combine Fujimoto and Jaeger with Ames for the benefit of simplified operation to obtain the invention as specified in claim 45.

**With respect to claims 84, 87 and 93**, these claims are merely method versions of claims 27, 31 and 45, respectively. As such claims 84, 87 and 93 are rejected on the same merits shown above in the rejection of the identical apparatus version of the claim.

16. Claims 29, 32 and 88 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimoto (US 6,061,177) in view of Jaeger (US 5,572,239; hereinafter Jaeger-'239) and further in view of Jaeger (US 5,936,613; hereinafter Jaeger-'613).

**With respect to claim 29** Fujimoto and Jaeger-'239 disclose, an instrument panel according to claim 1 (see above).

Neither Fujimoto nor Jaeger-'239 expressly disclose wherein said screen is irregular.

Jaeger-'613 discloses wherein said screen is irregular (col. 25, lines 60-65).

Fujimoto, Jaeger-'239 and Jaeger-'613 are analogous art because they are from the same field of endeavor namely, display devices with input means included within the display, position of said input means being determined electro-optically.

At the time of the invention it would have been obvious to one of ordinary skill in the art to construct the screen of Fujimoto and Jaeger-'239 in a flexible manner allowing irregular shapes, taught by Jaeger-'613.

The motivation for doing so would have been to allow the inputs to be situated in a more ergonomic position for the user, such as a convex shape.

Therefore it would have been obvious to combine Fujimoto and Jaeger-'239 with Jaeger-'613 for the benefit of ergonomics to obtain the invention as specified in claim 29.

**With respect to claim 32**, Fujimoto and Jaeger-'239 disclose, an instrument panel according to claim 1 (see above).

Neither Fujimoto nor Jaeger-'239 expressly disclose, wherein said display screen is made of plastic.

Jaeger-'613 discloses wherein said display screen is made of plastic (col. 8, lines 44-47).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to make the display screen out of plastic.

The motivation for doing so would have been due to the durability of plastic.

Therefore it would have been obvious to combine Fujimoto and Jaeger-'239 with Jaeger-'613 for the benefit of durability to obtain the invention as specified in claim 32.

**With respect to claim 88**, these claims are merely method versions of claim 32.

As such claim 88 is rejected on the same merits shown above in the rejection of the identical apparatus version of the claim.

17. ~~Claims 36 and 90~~ are rejected under 35 U.S.C. 103(a) as being unpatentable over Fujimoto (US 6,061,177) in view of Jaeger et al. (US 5,572,239) and further in view of Yamaguchi (US 6,441,807).

**With respect to claim 36**, Fujimoto and Jaeger disclose, an instrument panel according to claim 1 (see above).

Neither Fujimoto nor Jaeger expressly disclose, wherein said screen is easily interchanged.

Yamaguchi discloses an interchangeable screen (22 and 21 in fig. 2) for a touch screen unit (10 in fig. 2) with projector input means (106 in fig. 12).

Yamaguchi, Fujimoto and Jaeger are analogous art because they are from the same field of endeavor, display devices with input means included within the display, position of said input means being determined electro-optically.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to combine the interchangeable screens of Yamaguchi with the plurality of control features of Jaeger and Fujimoto.

The motivation for doing so would have been to allow more flexibility of uses for the users (for example sheet 23 in fig. 3).

Therefore it would have been obvious to combine Fujimoto and Jaeger with Yamaguchi for the benefit of greater flexibility and range of uses to obtain the invention as specified in claim 36.



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**With respect to claim 90**, this claim is a merely method version of claim 36. As such claim 90 is rejected on the same merits shown above in the rejection of the identical apparatus version of the claim.

***Conclusion***

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William L. Boddie whose telephone number is (571) 272-0666. The examiner can normally be reached on Monday through Friday, 7:30 - 4:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Wlb  
12-18-06

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